100003352

Stevenson, Peter

From: Sorenson - DNR, Allen <allen.sorenson@state.co.us>
Sent: Wednesday, November 22, 2017 3:13 PM
To: Rob Runkel; Blackburn, Robyn; Wyatt, Jean; Chapin, Thomas; Stevenson, Peter; Stanley Feeney - CDPHE; Kyle Sandor - CDPHE
Subject: Illinois Gulch flow measurements
Attachments: germania sketch.pdf; Illinois Gulch IG07 spot flows.xlsx; little mountain flows_2.xlsx; willard 1 flows_2.xlsx; willard 2 flows_2.xlsx; Boreas Roadside Ditch.pdf

Attached are the flow spreadsheets with the flows measured through the end of October. Some of you received the Little Mountain and IG07 spreadsheets previously, and these have not changed.

These flows replace the flows reported in previous spreadsheets as the previous spreadsheets did not correct H_a, the height of water measured at the specified location in the Parshall flume inlet, for the depth of the sumps in the stilling wells where the pressure transducers are installed. This makes a significant difference, so those of you that were using the previously reported flows to make loading calculations, etc., those should be rerun, for which I apologize.

Look in the "Notes" columns in the Willard 1 and Willard 2 spreadsheets for the dates on which the flumes were inspected and cleaned and make use of the flow data accordingly.

I have also attached a drawing of the Germania mine area inflows. I now believe that the flow at IG08 (mine impacted water entering the ditch along a 40-foot long line of springs) can best be determined by subtracting flow measured at IG07 from flow measured in the dedicated 2-inch Parshall flume.

Not – 4 measurements only, compare to 2" Flume; 3 yrs of Negative flows; Stream reach is losing water

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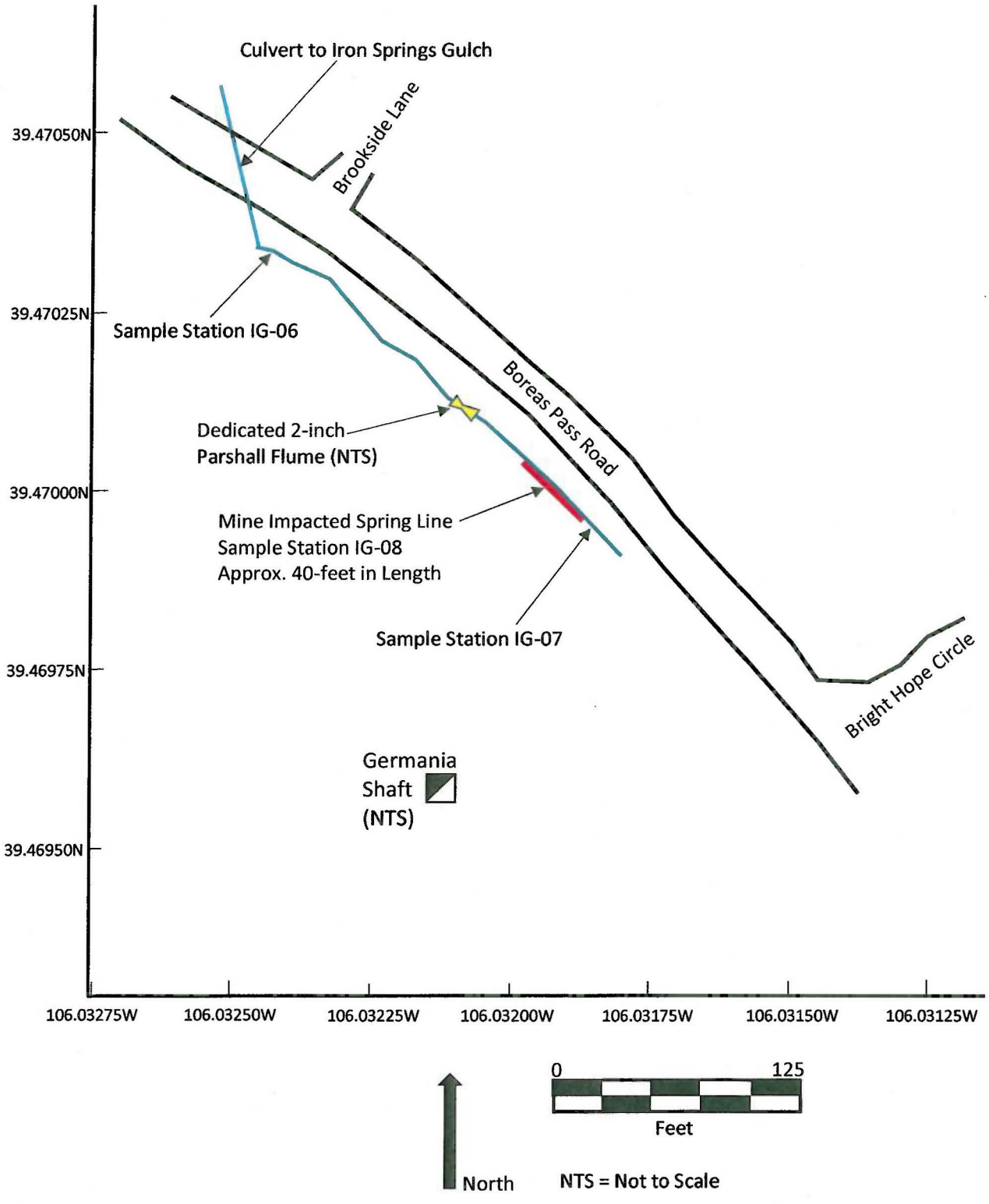
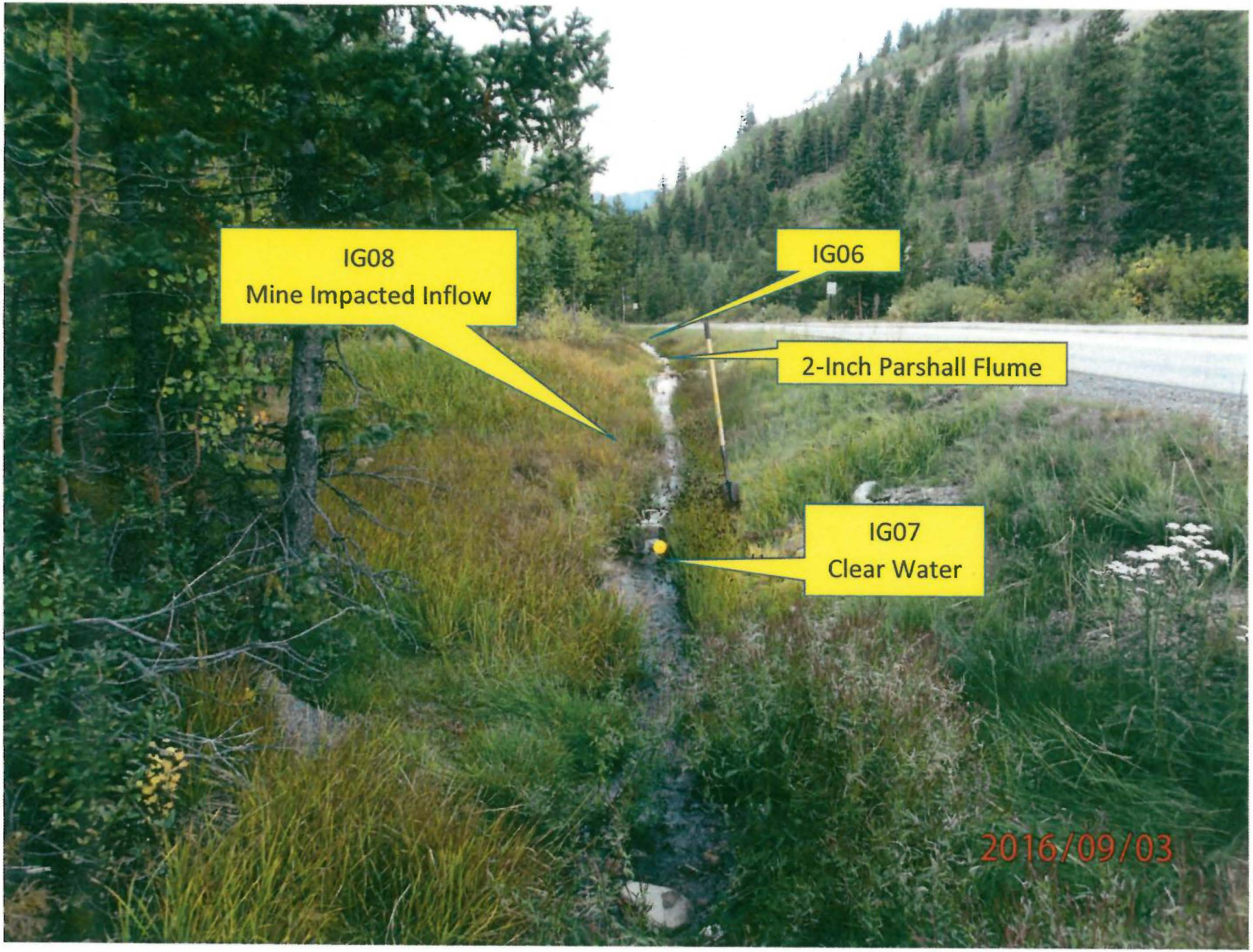


Little Mountain/Germania Mine Drainage

Flow Measurements at Station IG07, Boreas Pass roadside ditch above mine impacted inflow
All measurements made using Baski 4-inch cutthroat flume

DATE	TIME	INITIALS	Ha (feet)	Hb (feet)	FLOW (gpm)
9/3/2016	1500	ACS	0.17	0.07	26.93
9/1/2017	1420	ACS	0.19	0.09	33.65
9/26/2017	1200	ACS	0.16	0.06	23.86

Flume Δ
33 6gpm
24.65 -9
29.18 1000 -3.7
11.64 1400 -12


IG08
Mine Impacted Inflow
IG06
2-Inch Parshall Flume
IG07
Clear Water
2016/09/03